

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An interface A control router for providing communication between an automation host and a plurality of manufacturing tools, each of the plurality of manufacturing tools being used to perform a processing step, the interface-control router comprising:

a single communications and process behavioral connection interface to the automation host; and,

a plurality of virtual host interfaces all implemented within a single the control router, each virtual host interface from the plurality of virtual host interfaces providing a communications and process behavioral interface to one of the manufacturing tools in the plurality of manufacturing tools;

wherein the automation host can control and coordinate operation of all manufacturing tools in the plurality of manufacturing tools via the single communications and process behavioral connection interface.

2. (Currently amended) An interface A control router as in claim 1 wherein a number of virtual host interfaces is variable depending upon a number of manufacturing tools in the plurality of manufacturing tools.

3. (Currently amended) ~~An interface~~ A control router as in claim 1 wherein the plurality of virtual host interfaces implement different communications and process behavioral interface for different manufacturing tools from the plurality of manufacturing tools.
4. (Currently amended) ~~An interface~~ A control router as in claim 1 wherein the single communications and process behavioral connection interface makes the plurality of manufacturing tools appear to the automation host as a single tool.
5. (Currently amended) ~~An interface~~ A control router as in claim 1 additionally comprising a state machine scenario determinator that aggregates process state models for the plurality of manufacturing tools into a single process state model.
6. (Currently amended) ~~An interface~~ A control router as in claim 1 additionally comprising a state machine scenario determinator that aggregates control state models for the plurality of manufacturing tools into a control process state model.
7. (Currently amended) ~~An interface~~ A control router as in claim 1 additionally comprising a state machine scenario determinator that aggregates port state models for the plurality of manufacturing tools into a single port state

model.

8. (Currently amended) ~~An interface~~ A control router as in claim 1 wherein a process variables set and variable identification numbers of manufacturing tools from the plurality of manufacturing tools are aggregated into a single process variable set and variable identification number range for the plurality of manufacturing tools.

9. (Currently amended) ~~An interface~~ A control router as in claim 1 additionally comprising a host concentrator that aggregates communication message sets of individual manufacturing tools from the plurality of manufacturing tools into a single communications message set for the plurality of manufacturing tools.

10. (Currently amended) ~~An interface~~ A control router in 1 wherein each virtual host interface from the plurality of virtual host interfaces is compliant with the Semiconductor Equipment Manufacturers Institute (SEMI) generic equipment model (GEM) interface requirements.

11. (Currently amended) ~~An interface~~ A control router in 1 wherein the single communications and process behavioral connection interface to the automation host is compliant with the Semiconductor Equipment Manufacturers Institute (SEMI) generic equipment model (GEM) interface requirements.

12. (Currently amended) A method for connecting an automation host to a plurality of manufacturing tools, each of the manufacturing tools being used to perform a processing step, the method comprising the following steps:

(a) providing a separate communications and process behavioral interface to each manufacturing tool in the plurality of manufacturing tools, all the separate communications and process behavioral interfaces being provided from within a single control router; and,

(b) providing a single communications and process behavioral connection interface to the automation host, including the following substep:

(b.1) allowing the automation host to control and coordinate operation of all manufacturing tools in the plurality of manufacturing tools via the single communications and process behavioral connection interface.

13. (Currently amended) A method as in claim 12, wherein in step (a) a number of virtual host interfaces is variable depending upon a number of manufacturing tools in the plurality of manufacturing tools.

14. (Currently amended) A method as in claim 12, wherein in step (a) the plurality of virtual host interfaces implement different communications and process behavioral interface for different manufacturing tools from the plurality of manufacturing tools.

15. (Currently amended) A method as in claim 12, wherein in step (b) the single communications and process behavioral connection interface makes the plurality of manufacturing tools appear to the automation host as a single manufacturing tool.

16. (Currently amended) A method as in claim 12, additionally comprising the following step:

(c) aggregating process state models for the plurality of manufacturing tools into a single process state model.

17. (Currently amended) A method as in claim 12, additionally comprising the following step:

(c) aggregating control state models for the plurality of manufacturing tools into a single control state model.

18. (Currently amended) A method as in claim 12, additionally comprising the following step:

(c) aggregating port state models for the plurality of manufacturing tools into a single port state model.

19. (Currently amended) A method as in claim 12, additionally comprising the following step:

(c) aggregating a process variables set and variable identification

numbers of manufacturing tools from the plurality of manufacturing tools into a single process variable set and variable identification number range for the plurality of manufacturing tools.

20. (Currently amended) A method as in claim 12, additionally comprising the following step:

(c) aggregating communication message sets of individual manufacturing tools from the plurality of manufacturing tools into a single communications message set for the plurality of manufacturing tools.

21. (Original) A method in 12 wherein in step (a) each separate communications and process behavioral interface is compliant with the Semiconductor Equipment Manufacturers Institute (SEMI) generic equipment model (GEM) interface requirements.

22. (Original) A method in 12 wherein in step (b) the single communications and process behavioral connection interface to the automation host is compliant with the Semiconductor Equipment Manufacturers Institute (SEMI) generic equipment model (GEM) interface requirements.